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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

DUONG, THOI V

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 03/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/510,300

Applicant(s)

PARK ET AL.

Examiner

Thoi V Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. This office action is in response to the Amendment, Paper No. 7, filed December 09, 2002.

Accordingly, claims 1, 6 and 10 were amended. Currently, claims 1-19 are pending in this application.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or  
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 15-17 and 19 stand rejected under 35 U.S.C. 102(e) as being anticipated by Hanagawa et al. (USPN 5,953,088) for the same reasons set forth in the last office action.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1, 3-7 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over den Boer et al. (USPN 5,641,974) in view of Yoshino (USPN 5,358,810) for the same reasons set forth in the last office action.
6. Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over den Boer et al. (USPN 5,641,974) in view of Yoshino (USPN 5,358,810) as applied to claims 1, 3-7 and 9 above, and further in view of Kobayashi et al. (USPN 5,847,792) for the same reasons set forth in the last office action.
7. Claim 8 stands rejected under 35 U.S.C. 103(a) as being unpatentable over den Boer et al. (USPN 5,641,974) in view of Yoshino (USPN 5,358,810) as applied to claims 1, 3-7 and 9 above, and further in view of Hanazawa et al. (USPN 5,953,083) for the same reasons set forth in the last office action.
8. Claims 10-12 and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hanagawa et al. (USPN 5,953,088) in view of Murade (USPN 6,388,721 B1) for the same reasons set forth in the last office action.
9. Claim 13 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Hanagawa et al. (USPN 5,953,088) in view of Murade (USPN 6,388,721 B1) and further in view of Hanazawa et al (USPN 6,400,427 B1) and den Boer et al. (USPN 5,641,974) for the same reasons set forth in the last office action.
10. Claim 18 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Hanagawa et al. (USPN 5,953,088) in view of Hanazawa et al (USPN 6,400,427 B1) and den Boer et al. (USPN 5,641,974) for the same reasons set forth in the last office action.

***Response to Arguments***

11. Applicant's arguments filed on 12/09/2002 have been fully considered but they are not persuasive.

Applicant argued that Yoshino fails to cure the deficiencies of den Boer since Yoshino does not teach a color filter plate, wherein the black matrix of the color filter plate asymmetrical overlaps the data line of the thin film transistor plate as in claim 1 or wherein the pixel electrode asymmetrical overlaps a second data line at a second end of the pixel electrode opposite the first end as in claim 6. The Examiner disagrees with the Applicant's remarks since, with respect to claim 1, den Boer discloses a similar LCD comprising a first thin film transistor plate comprising a pixel electrode 3 ... being connected to the drain electrode 31 through the contact hole 35 and a second transparent substrate comprising a black matrix 56 asymmetrical overlaps the data line 5 of the thin film transistor plate (see Figs. 4 and 7); and with respect to claim 6, the pixel electrode partially overlaps the first data line at a first end of the pixel electrode and overlaps the second data line at a second end of the pixel electrode opposite the first end (see Fig. 1). Meanwhile, the reference of Yoshino is employed for teaching a color filter 36 being formed between the black matrix 24 on the second substrate as shown in Figs. 1 and 3. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD of den Boer with the teaching of Yoshino by forming a color filter between the black matrix on the second substrate to obtain a color display.

With respect to claim 2, Applicant argued that Kobayashi fails to cure the deficiencies of den Boer and Yoshino. The Examiner disagrees with the Applicant's remarks since the reference of Kobayashi is employed for teaching a black matrix being formed according to a direction of rubbing an alignment film (see Figs. 19A and 19B) for preventing generation of leakage current due to photoelectromotive force in the TFTs 4 (col.13, lines 57-59). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the LCD of den Boer with the teaching of Kobayashi by forming a black matrix according to a direction of rubbing an alignment film so as to obtain higher luminance for the display image.

With respect to claim 8, Applicant argued that Hanazawa fails to cure the deficiencies of den Boer and Yoshino. The Examiner disagrees with the Applicant's remarks since the reference of Hanazawa is employed for teaching the overlap width between the pixel electrode and the data line being selected according to a direction of rubbing an alignment film. As shown in Figs. 10-12, the overlap width between the pixel electrode 51(PE) and the data lines 50a(X), 50b(X) is selected according to a direction of rubbing an alignment film 88 (col. 7, lines 40-61) so as to reduce crosstalk and irregularity of brightness for the display (col. 8, lines 3-8). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the LCD of den Boer with the teaching of Hanazawa by selecting the overlap width between the pixel electrode and the data line according to a direction of rubbing an alignment film so as to obtain a display with high-quality image.

With respect to claim 10, Applicant argued that Murade fails to cure the deficiencies of Hanazawa since Murade only teaches a black matrix. The Examiner disagrees with the Applicant's remarks since Hanazawa discloses a color filter plate and a thin film transistor plate comprising a pixel electrode ... being connected to the drain electrode through the contact hole, wherein the pixel electrode partially overlaps the data line and where a cut-off film is formed under the data line, said cut-off film being asymmetrical overlapped by the data line and being partially overlapped by the pixel electrode as in claim 10. Since Hanazawa does not disclose a black matrix formed in the color filter plate, the reference of Murade is employed for teaching a black matrix being formed on the plate to cure the deficiencies of Hanazawa for reducing a leakage current which would otherwise result from the TFT being exposed to light (col. 26, lines 1-22). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD of Hanazawa with the teaching of Murade by forming a black matrix on the color filter plate to obtain a display with high-quality image due to a great reduction of leakage current.

With respect to claim 13, Applicant argued that Hanazawa '427 and den Boer fail to cure the deficiencies of Hanazawa '088 and Murade. The Examiner disagrees with the Applicant's remarks since Hanazawa '427 and den Boer are employed for teaching an overlap region between the pixel electrode, the cut-off layer and the data line having a width of between 2 micrometers and 4 micrometers for obtaining an excellent display performance due to increasing pixel aperture ratio (den Boer, col. 1, lines 15-23) and decreasing light leakage in an oblique direction (Hanazawa '427, col. 3, lines 40-47).

With respect to claim 15, Applicant argued that no where in the reference of Hanazawa (USPN 5,953,088) states a method including simultaneously forming the gate line and the cut-off film; and no where in the reference of Hanazawa states that contact hole 82 exposing a portion of the source electrode is formed in the passivation layer and the pixel electrode is formed to connect to the source electrode. The Examiner disagrees with the Applicant's remarks since Hanazawa does states a method including simultaneously forming the gate line 62 and the cut-off film 53b in col. 5, lines 3-14; forming a contact hole 82 in the passivation layer 81 to expose the source electrode 78 in col. 5, lines 63-67; and forming a pixel electrode 51 to contact the source electrode in col. 6, lines 1-7.

Finally, with respect to claim 18, Applicant argued that Hahazawa '427 and den Boer fail to cure the deficiencies of Hanazawa '088. The Examiner disagrees with the Applicant's remarks since Hanazawa '427 and den Boer are employed for teaching an overlap region between the pixel electrode, the cut-off layer and the data line having a width of between 2 micrometers and 4 micrometers for obtaining an excellent display performance due to increasing pixel aperture ratio (den Boer, col. 1, lines 15-23) and decreasing light leakage in an oblique direction (Hanazawa '427, col. 3, lines 40-47).

### ***Conclusion***

**12. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within



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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong

02/26/2003

  
TOANTON  
PRIMARY EXAMINER